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ABSTRACT

In order to examine the effects of such demographic characteristics as sex, age, education, occupational tenure and status, company and job tenure and management level on job satisfaction, the responses of 1,139 exempt employees in six companies to 28 satisfaction scales were factor analyzed. In comparing the factor structures for the various demographic groupings, patterns of scale loadings across groupings were emphasized. It was expected that some factors would be common for all demographic groupings of employees, while other factors would vary in their patterns of scale loadings. The resulting factor structures showed that factors related to compensation and personal progress and development work aspects had very similar scale loadings for all groupings of employees. However, the two remaining factors that dealt with superior-subordinate interactions and the context of the organization were perceived differently among the demographic groupings. Thus the conclusion of the study was that demographic characteristics reflected a difference in the perception of organizational-related variables but not in the perception of individual-related variables for job satisfaction. (Author)

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The Relation of Sample Demographic Characteristics to Job Satisfaction

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in collaboration with

William Weitzel, René V. Dawis, Patrick R. Pinto

University of Minnesota

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Discussion of the Problem

While an employee's perception of job satisfaction may be organizationally specific to some degree, it is necessary to analyze these employee perceptions in terms of various employee groupings within organizations if employee job satisfaction research is to be applicable for any one particular organization. It is the analysis of job satisfaction for various groupings within demographic characteristics such as age, sex, tenure, etc. that allows one to see the influence of each characteristic on the individual employee's perceptual structure of job satisfaction. By examining differences and similarities in perceptions for these groupings, one can more easily develop strategies necessary for effecting changes in the job satisfaction pattern of an organization. One method of describing the structure of managerial job satisfaction is to factor analyze appropriate measures of the construct for various groups and to compare factor structures between groups.

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Variable Description

The measures of job satisfaction used in this study were 28 satisfaction scales (4 items each) from the Triple Audit Opinion Survey administered on site to six companies in November, 1970. Items in each survey instrument were generated from information obtained in a representative sample of employee interviews and then formed into 4-item scales on the basis of content similarity. A five point Likert scale, with detailed verbal anchorings from Not Satisfied to Extremely Satisfied, was used for responses to the satisfaction-related items. Scales with 4 items were employed in an attempt to get four basic measures of the same work aspect as well as to cover slightly different parts of each underlying work aspect. The Hoyt index of internal consistency[2] for the 28 scales ranged from .55 to .95. For all six companies most of the scales had internal consistency coefficients of .80 or better, while only 12 of the 168 total (6 x 28) coefficients were below .70.

Sample Description

The analyses in this study were carried out on 1139 exempt employees from six operating companies of one corporation. While the companies belonged to the same corporation, there was little reason to suspect homogeneity of the sample of organizations because of high individual company autonomy. Two of the oldest companies had recently merged (within the past three years) to form the new corporation, while a third organization had only existed for nine years.

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[2] C. J. Hoyt, "Note on a simplified method of computing test reliability," Educational and Psychological Measurement, (1941), Vol. 1 pp. 93-95.

The companies varied in size; three companies were sampled using a stratified random sampling procedure while the other three were population studies. The total group of 1139 was factor analyzed, as well as being divided in terms of the following demographic variables: sex, age, education, job tenure, company tenure, occupational tenure and status (key management group vs. non-key management group). The status variable differentiated top level executives from other salaried employees.

Method

The principal factor method was applied to the variable intercorrelation matrix. Squared multiple correlations were used as communality estimates. The resulting factors were rotated using an orthogonal varimax rotation.

Results and Discussion

Factors Common To All Demographic Groupings

The factor structures for each demographic variable were interpreted in terms of items which loaded above a standard cut-off. A loading of .707 was selected as a cut-off because scales at this level accounted for 50% of the variance.

First Factor (Compensation) For every employee grouping, the following three scales consistently loaded .707 or higher, and were the only scales to do so: Amount of Compensation, Comparison of Compensation and Company Compensation Practices. The loadings for these three scales ranged from about .78 to .93, while the other 25 scale loadings were considerably smaller; usually .4 or less. The consistency of these high loadings on three scales with low loadings on the rest, as well as the clarity of meaning of the items in these scales, left little

doubt as to the nature of this factor. Because of this consistency it was the authors' opinion that compensation goes beyond demographic differences.

Factors Different For All Demographic Groupings

The number of remaining factors, given the Kaiser criterion, was either two or three. The number of remaining factors and their interpretations differed for the various demographic groupings of employees. In the case of three remaining factors, they could usually be characterized in the following manner:

Second Factor (Personal Progress and Development) This factor was generally characterized by item content dealing with satisfaction with progress and choice of career, work challenge and overall feelings of satisfaction.

Third Factor (Superior-Subordinate Interaction) This factor was usually characterized by work aspects concerned with human relations and competence of supervision, regular communications with superiors, and credibility of and confidence in management.

Fourth Factor (Organizational Context) This factor usually consisted of work aspects dealing with company aims and plans, policies and practices, philosophy and goals, as well as staffing of the organization.

In the case of two remaining factors usually the third and fourth factor were combined, although occasionally either the third or fourth simply dropped out. These factor structures were somewhat similar for all demographic groupings; some individual scales may have changed from one demographic grouping to another, but the scales were always consistent with the dominant theme of the factor. It should be noted that factors were rotated and therefore factor order was of no consequence. For this reason factors were labeled first, second, third,

fourth across demographic groupings according to similarity of content rather than order of extraction. In the subsequent discussions and comparisons of factor structures for the various demographic groupings, the emphasis will be on patterns of scale loadings across groupings, rather than on the presence or absence of a particular scale loading.

Total Group Analysis

The remaining factors after compensation were:

Second Factor (Personal Progress and Development) The scales loading on this factor were concerned with such work aspects as satisfaction with progress and choice of career, ability utilization, work challenge, overall feelings of satisfaction, and opportunities for advancement. The central theme of this factor was constant for all of the subsequent demographic groupings, although the higher loading scales varied somewhat between groups.

Third Factor (Supervisory-Subordinate and Organizational Context) This factor had high loadings for scales dealing with credibility of and confidence in management, regular communications with superiors, technical competence of the supervisors, overall cooperation, and company policy and practices, aims and plans. As happened frequently in three-factor structures, this third factor was a combination of the third and fourth factors in the four-factor structure.

Sex

The factor analysis was carried out here on the males and females of two companies. Sex analyses were not carried out across all companies as only these two organizations had sufficient numbers of female exempt employees to warrant investigation. Both companies were retailing organizations of com-

parable size. As noted earlier in the paper, the compensation factor was invariant across all groupings. Males and females expressed similar feelings about the progress of their careers, the utilization of their abilities, and their opportunities for advancement. While a few other scale loadings varied among groupings, no systematic pattern between sexes or companies was observed. It was concluded that differences in scale loadings for the personal progress and development factor were to be attributed to influences other than sex or organization.

In comparing the remaining factors for these groups, one major difference was observed. First the females from both companies differentiated more clearly between superior-subordinate interactions and the organizational contexts than did the males. The males of company B tended to see the elements of these two factors as one factor. This failure to distinguish between these two factors by the males was the only noteworthy difference observed between the sexes.

A plausible first explanation for the clear distinction of these two factors by females may lie in the fact that most exempt females are at the lower levels of the management hierarchy. Because of their low position in the organization females would be more conscious of superior and subordinate interactions as something separate from the company policies. Higher level personnel would have more subordinate and less superior interaction. They would be more likely to think of subordinates in terms of the policies they set for them. However such an explanation is doubtful when one considers the key-management group/non-key-management group dichotomy which is considerably more reflective of level in the management hierarchy. In this analysis it was the higher level KMG's that made a clear distinction between superior-subordinate and organ-

izational context factors while the lower level non-KMG's had a more general third factor combining elements of both. Because the KMG/non-KMG analysis contradicts the female level explanation, the existence of sex differences in the perception of job satisfaction factors seems quite plausible.

Education

Because of the extremely small numbers of exempt employees with less than high school education, these people were not included in the analysis. The five educational groups were:

1) High school education
2) Some college and associate in arts degree[3]
3) Bachelor's degree
4) Some graduate or professional school but no graduate degree
5) Graduate degree (Master's or Doctorate)

Employees from all six organizations were used in these categories. Again the compensation factor was consistent for all five categories. All five groups responded similarly to the personal progress and development factor. Some isolated omissions in their factor structures were noted but no systematic differences in the pattern of PP & D scales were observed.

In comparing these groupings in terms of the superior-subordinate interaction and organizational context factors, some differences in factor structures were observed. Three groups (high school, bachelor's degree, and MA/PhD) had

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[3] The factor structure did not vary appreciably when the people with A.A. degrees were omitted.

very similar loadings for these factors while the "in between" groups (some college and some grad school) were also similar to each other.

The first, third, and fifth groups had high loadings for technical competence and human relations of supervision on the third factor, while company policies and practices and company aims and plans loaded highly on the fourth factor. In addition, clarity of company philosophy and goals loaded highly on the fourth factor for the "high school" group.

On the other hand, the two "in between" groups had only a third factor. Technical competence of supervision, regular communications with superiors, credibility of and confidence in management and overall cooperation were the work aspects that had high loadings for both groups on this factor. Openness of formal communication channels also loaded highly for the "some grad school" group, while company aims and plans and company policies and practices loaded highly for the "some college" group on this factor.

The pattern suggested that the "in between" groups had various elements of both interaction factors in their third factor, while the other three educational groups made a clear distinction in their loadings on the two factors.

The "in between" groups are considered in between because they have more formal education than the groups below them, but the same degree, while they have less formal education and a lower degree than the group just above them on the educational continuum. Prior to the inspection of results it was thought that the factor structures would indicate if one of the other three groups was a reference group for the "in between" exempt employee. However, the scale loadings for these groups on the two interaction factors served only

to magnify the differences in perceptions. The explanation for these differences between the two sets of groups is open to speculation.

Age

Exempt employees from all six companies were divided into the different age groups. Grouping the ages between 30 and 55 into 5-year intervals provided adequate and meaningful groups.

All seven of the age groupings had identical factor structures for compensation and a somewhat similar list of scales that loaded highly on the personal progress and development factor. The only real exception to the similarity was the "50-54" age group which had only one scale, satisfaction with progress of career, that loaded .707 or higher on this factor. There was no systematic pattern of high scale loadings for the personal progress and development factor among the age groupings.

There also appeared to be no pattern of high scale loadings for the superior-subordinate interaction and organizational context factors. With two exceptions, all groupings had similar scale loadings for both factors and seemed to distinguish between them as two separate factors. The exceptions were the "29 or less" and "55 and greater" age groups which were both three-factor structures. The third factor seemed to consist solely of superior-subordinate interaction elements for the "29 or less" group, while the "55 and greater" group had a mixture of elements from both factors. An explanation for this may lie not in age itself, but in the covariance of age with other factors such as company experience. It can be seen that those groupings of highest and lowest company experience also have only three factors. The scale makeup

for the third factor in company tenure was similar to that of age. A company experience related explanation would seem to be plausible in this situation.

Job Experience

Exempt employees for all six organizations were divided into six categories of job experience (see Table 2). The breakdown of job experience into categories was determined in a manner that would provide somewhat even breaks while ensuring N's in excess of 100.

As usual the scales loading highly on the compensation factor were uniform for all groupings. There was little variance in the scale makeup for the personal progress and development factor except that work challenge and ability utilization tend to load somewhere below .707 for groups of people with 4 or more years experience on the same job. This might suggest that these two work aspects were perceived to be less a part of the personal progress and development area of job satisfaction by people as they experienced more years on the same job.

Again with two exceptions, all groups seemed to make a distinction between superior-subordinate interactions and organizational context. The two exceptions were the "less than one year" and "4-9 years" job experience groups. For the "4-9 years" group this factor seemed to consist of superior-subordinate interaction related scales while the "less than 1 year" group had a mix of scales from both factors. As with age the explanation for these differences in patterns of scale loadings for job experience probably exists in a company experience interpretation.

Company Experience

Again all six companies were divided into six intervals of company experience. The intervals were constructed so as to maintain the N in excess of 100.

The compensation factor (first) was once more consistent in the scales that loaded highly. A considerably more irregular pattern of scale loadings existed for the personal progress and development factor (second). The number of scales that loaded highly for these intervals ranged from two to six, but with no detectable pattern.

A pattern of loadings for the superior-subordinate and organizational context factors was evident. The scale loadings for these factors for the three middle intervals (4-20 years of company experience) were very similar especially in that differences were perceived between the two factors. For the first two intervals of company experience (less than four years) there was no fourth factor. With few exceptions, the high scale loadings on the third factor tended to deal with communications and relationships with superiors. The last interval for company experience (greater than 20 years) also had only three factors, with scale loadings on the third factor that had to do with the organizational context.

The overall pattern for the third and fourth factors here suggested that job satisfaction (other than compensation and personal progress and development) was perceived to be related only to superior-subordinate interactions for newer people in the organization. Job satisfaction was differentially related to superior-subordinate interactions and organizational context for people with approximately 4-20 years in a company, and only related to organizational context for the groups with the most company experience. Whether this pattern is related to the actual number of years in an organ-

ization or the number of years relative to the company's age is open to speculation. However, in this particular study, it is apparent that a superior-subordinate interaction orientation early in one's life with the company evolves into a dual orientation later and then into an organizational orientation after about twenty years with the company. Perhaps the newcomer's need for reinforcement from superiors is modified and then disappears as the added years of tenure in the company increase the employee's identification with the organization.

The somewhat similar patterns of scale loadings for age and job experience are probably explained by their correlations with company experience (.69 and .63 respectively).

Occupational Experience

Exempt employees from all six companies were divided into 5-year intervals of occupational experience. Again N's in excess of 100 were achieved.

The compensation factor was again consistent for all intervals. The personal progress and development factor varied in the scales loading highly, but with no systematic pattern. One noticeable variation was the "15-19 years" group which had ten of twenty-eight scales loading .707 or higher on this factor. Most unusual was the loading of four scales which had not previously loaded on this factor for any other demographic grouping. These scales dealt with such work aspects as recognition from superiors, effectiveness of performance evaluation, participation in decision-making, and individual identity.

With the exception of the company aims and plans scale loading .743 on a fourth factor for the "5-9 years" group, all other occupational experience groupings had three-factor structures. The third factor consisted of superior-subordinate related aspects for the two groupings under 10 years, a mix of superior-subordinate interactions and organizational context for the "10-14 year" group, and only organizational context aspects for the three groupings of employees with more than fourteen years experience in their occupation. The trend is similar to that discussed in the analysis of employees according to company experience. Again the explanation may be a company experience related one in as much as occupational and company experience are highly correlated here (.71).

Status

The exempt employees of the five largest organizations were analyzed in terms of their belonging or not belonging to the key management group of their company. The key management group (KMG) consisted of those executives who are eligible for the executive bonus and are generally members of the company's policy-making committees.

Again the compensation factor was consistent and the personal progress and development factor varied little between groups in terms of scale loadings. An interesting comparison existed between KMG's and non-KMG's for the remaining factors. For the non-KMG's the third factor consisted of a mix of scales usually associated with both the superior-subordinate interaction and organizational context factors. The KMG's separated these two factors into a third and fourth factor. This would suggest that the

KMG's perceive that the two sets of scales differ in their relation to job satisfaction, while the non-KMG's do not make this distinction. The difference might be explained in that for the top executive group, company policies and goals, aims and plans were distinct from relationships with their own superiors, who in most cases are the highest authorities in the organization. For lower level managers, it was probably hard to separate the medium from the message, since they saw their superiors predominantly as carriers of company policy.

Overall Results and Comments

Factor Loadings for Scales

In describing the factors in terms of the content of scales that loaded .707 or better, the following observations were made for a factor analysis of job satisfaction scales for various demographic groupings.

First, no matter how the sample was divided demographically, there always existed a factor that had high loadings on the three compensation scales only. These scales did not load highly on any other factors. As was indicated before, it is apparent that this sample of exempt employees perceived compensation to be an independent entity in relation to job satisfaction. The explanation for this might well be due to the exempt status of all employees in this sample or it may be more basic. In any case, the explanation is open to speculation.

Second, with almost no exception, there existed a second factor for all groupings,that consisted of three or more scales from a set of seven scales that loaded highly on no other factor. The set of seven scales were concerned

with such aspects of work as satisfaction with choice and progress of career, ability utilization, work challenge, promotion practices, opportunities for advancement, and overall feelings of satisfaction. It was interesting to note that overall feelings of satisfaction always loaded on this factor or not at all. This personal progress and development factor may have to be explained in terms of exempt status or more basic characteristics.

Third, the remaining factors consisted of scales that dealt either with superior-subordinate relationships or with the relation of the employee to the organizational context, or both, or a mix of the two. The particular combination of scales varied between the many demographic groupings with the following patterns being observed:

a) Sex: Females perceived superior-subordinate interactions and organizational context to be separate entities in their relation to job satisfaction. Males did not make this distinction, but instead perceived these two factors as one, in relation to job satisfaction.

b) Education: Employees who had a high school degree, a college degree or a graduate degree, perceived a difference between superior-subordinate interactions and organizational context factors. Employees with some college, but no bachelor degree or some graduate school, but no MA or PhD perceived the two factors as one.

c) Status: Members of the key management group perceived two separate interaction factors while non-KMG's perceived the two to be mixed as a single factor.

d) In the analyses of the job satisfaction scales in terms of the continuous demographic groupings (i.e. age, job experience, company experience, and occupational experience) a common pattern emerges for the third and fourth factors. This pattern is best exemplified in the company experience analysis. The pattern is that only the superior-subordinate interaction is perceived by the low company tenure groupings, while only the organizational context factor is perceived by the high company tenure groupings as related to job satisfaction. The middle groupings perceive both factors or a mix of the two as one factor. These patterns that existed for all four continuous demographic variables may have a common explanation in as much as the variables themselves are highly intercorrelated (.54 to .74).

The patterns among the factor structures for the various demographic groupings would suggest that demographic characteristics involved in this study do not differentiate exempt employees in their perceptions of job satisfaction for individual matters (i.e. compensation, personal progress and development), but do differentiate them in their perceptions of organizational matters (superior-subordinate, organizational context) as related to job satisfaction.

TABLE 1

SCALES (VARIABLES)	(159)* Company A Male	(61) Company A Female	(353) Company B Male	(100) Company B Female	(160) HS	(299) SC	(402) BA	(110) Some Grad	(95) MA/ PhD	(233) KMG	(830) Non-KMG	TOTAL GROUP (1139)
	SEX				EDUCATION					STATUS		
Amount of Compensation	1**	1	1	1	1	1	1	1	1	1	1	1
Comparison of Compensation	1	1	1	1	1	1	1	1	1	1	1	1
Compensation Practices	1	1	1	1	1	1	1	1	1	1	1	1
Satisfaction with Progress of Career	2	2	2	2	2	2	2	2	2	2	2	2
Ability Utilization	2	2	2	2	2	2	2	2	2	2	2	2
Overall Feelings of Satisfaction	2	2	2			2	2	2	2	2	2	2
Work Challenge		2	2				2	2	2	2	2	2
Satisfaction with Choice of Career			2					2	2		2	2
Opportunity for Advancement	2	2	2	2	2	2	2		2	2	2	2
Promotion Practices		2	2	2	2		2		2		2	2
Individual Identity												
Participation in Decision-Making												
Effectiveness of Performance Evaluation												
Bases of Promotion				2								
Recognition from Superiors												
Human Relations of Supervisors	3	3		3	3		3		3			
Technical Competence of Supervision	3	3		3	3	3	3	3	3	3		
Feedback from Superiors		3								3	3	3
Regular Communications with Superiors	3		3			3		3			3	
Credibility of and Confidence in Management			3			3		3			3	3
Openness of Formal Communication Channels			3					3			3	3
Overall Cooperation			3			3		3			3	
Company Aims and Plans		4	3	4	4	3	4		4	4	3	4
Company Policies and Practices	4	4	3	4	4	3	4		4	4	3	4
Staffing of Organization												
Clarity of Company Philosophy and Goals		4		4	4							

* The number in parentheses is the number of respondents.

** Because factors were rotated, factor order is of no consequence. For this reason factors are labeled 1, 2, 3, 4 across companies according to similarity of content rather than order of extraction.

TABLE 2

SCALES (VARIABLES)	(326)*	(182)	(155)	(138)	(146)	(99)	(102)	(293)	(204)	(175)	(109)	(182)	(185)	(181)	(223)	(141)	(170)	(240)	(193)	(284)	(260)	(204)	(122)	(139)	(139)
	AGE							JOB EXPERIENCE						COMPANY EXPERIENCE						OCCUPATIONAL EXPERINECE					
	LE 29	30-34	35-39	40-44	45-49	50-54	GT 54	LT 1	1 yr	2 yr	3 yr	4-9	GE 10	LE 1	2-3	4-5	6-10	11-20	GT 20	LE 4	5-9	10-14	15-19	20-24	GE 25
Amount of Compensation	1**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Comparison of Compensation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Compensation Practices	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Satisfaction with Progress of Career	2	2	2	2	2	2	2	2	2	2	2	2	2		2		2	2	2	2	2	2	2		2
Ability Utilization	2	2	2	2	2			2	2	2	2			2	2	2		2	2	2	2	2	2	2	
Overall Feelings of Satisfaction	2	2	2	2	2		2	2	2	2	2	2		2	2	2		2	2	2	2	2	2	2	2
Work Challenge	2		2		2		2	2	2	2	2			2	2	2				2	2	2	2	2	
Satisfaction with Choice of Career	2	2	2		2			2		2	2	2						2		2		2			2
Opportunities for Advancement		2	2	2			2		2	2			2		2			2		2			2		2
Promotion Practices		2	2	2			2				2		2		2		2	2		2			2		
Individual Identity																							2		
Participation in Decision-Making																							2		
Effectiveness of Performance Evaluation											3												2		
Bases of Promotion																									
Recognition from Superiors						3				3													2		
Human Relations of Supervisors		3	3	3	3	3			3	3	3		3			3	3	3			3				
Technical Competence of Supervision	3	3	3	3	3	3		3	3	3	3	3	3	3	3	3	3			3	3	3		2	
Feedback from Superiors		3	3			3				3		3						3							
Regular Communications with Superiors	3						3					3		3	3					3	3				
Credibility of and Confidence in Management	3		3			3	3		3			3		3	3					3		3			
Openness of Formal Communication Channels	3						3					3		3								3			3
Overall Cooperation	3						3					3		3	3					3		3			
Company Aims and Plans		4	4	4	4	4	3	3	4	4	4		4			4	4	4	3		4	3	3	3	
Company Policies and Practices				4	4		3			4				3		4	4		3			3	3	3	
Staffing of Organization																									
Clarity of Company Philosophy and Goals				4	4	4	3				4		4					4	3				3		3

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